

WHAT IS CLAIMED IS:

1        1. A fiber optic receiver, comprising:  
2            a substrate;  
3            a receiver optical sub-assembly (ROSA) mounted on the substrate and  
4            comprising a fiber optic connector for coupling to a mating connector of a fiber optic  
5            cable;  
6            an opto-electronic transducer incorporated within the ROSA and configured to  
7            generate an electrical data signal in response to a received optical data signal;  
8            a preamplifier circuit incorporated within the ROSA, coupled to the opto-  
9            electronic transducer, and operable to linearly amplify an electrical data signal  
10            generated by the opto-electronic transducer; and  
11            an adjustable bandwidth post-amplifier circuit mounted on the substrate and  
12            coupled to an output of the preamplifier circuit.

1        2. The fiber optic receiver of claim 1, wherein the post-amplifier circuit  
2            comprises a switch for setting a bandwidth response of the post-amplifier circuit in  
3            response to a received data rate control signal.

1        3. The fiber optic receiver from claim 2, wherein the post-amplifier circuit  
2            further comprises a low-pass filter coupled to the switch.

1        4. The fiber optic receiver of claim 3, wherein the low-pass filter comprises  
2            a capacitor.

1        5. The fiber optic receiver of claim 1, wherein the post-amplifier circuit  
2            comprises a voltage-variable capacitor.

1        6. The fiber optic receiver of claim 1, wherein the post-amplifier circuit  
2            comprises a wide bandwidth signal path and a narrow bandwidth signal path.

1        7. The fiber optic receiver of claim 6, wherein the post-amplifier circuit  
2            further comprises a multiplexer configured to selectively present for output electrical  
3            data signals transmitted over one of the wide bandwidth signal path and the narrow  
4            bandwidth signal path in response to a received data rate control signal.

1        8.    The fiber optic receiver of claim 6, wherein the wide bandwidth signal  
2    path comprises an amplifier with a relatively wide bandwidth response and the narrow  
3    bandwidth signal path comprises an amplifier with a relatively narrow bandwidth  
4    response.

1        9.    The fiber optic receiver of claim 1, wherein the post-amplifier comprises  
2    an input gain buffer coupled to the output of the preamplifier circuit.

1        10.   The fiber optic receiver of claim 1, wherein the pre-amplifier circuit is  
2    configured to linearly amplify an electrical data signal generated by the opto-electronic  
3    transducer over a specified range of optical data signal power.

1        11.   The fiber optic receiver of claim 1, wherein the ROSA comprises a  
2    header module mounted on the substrate and configured to house the opto-electronic  
3    transducer and the preamplifier.

1        12.   The fiber optic receiver of claim 1, wherein the opto-electronic  
2    transducer comprises a photodiode.

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